Agilent
P-Series Power Meters and
P-Series Wideband Power Sensors

Configuration Guide

P-Series Power Meters:
N1911A Power Meter (single channel)
N1912A Power Meter (dual channel)

P-Series Power Sensors:
N1921A Power Sensor (50 MHz to 18 GHz)
N1922A Power Sensor (50 MHz to 40 GHz)

Agilent Technologies

Introduction

This configuration guide describes standard configurations, options and compatible accessories. Contact your local Agilent representative for additional information.

P-Series Power Meters

The P-Series power meters provide peak, average, peak-to-average ratio power measurements, time-gated and free run modes, rise time, fall time and pulse width measurements.

The P-Series power meters are compatible with the 8480, E-Series and new P-Series power sensors. The P-Series power meters have a different sensor input connector than the EPM and EPM-P Series power meters, so it is necessary to use adapter cables. These adapter cables come in three different lengths. When using the 8480 or E-Series sensors, refer to the Cable Accessories section in this guide. For additional information, refer to the Literature reference section.

The standard P-Series power meters include:

- Single-channel power meter, **order N1911A** or dual-channel power meter, **order N1912A**
- Input sensor connector(s) on the front panel
- Reference calibrator (1 mW, 50 MHz) connector on the front panel
- Hardcopy Installation Guide[1]
- CD-ROM, contains the English-language and localized User's Guides and the English-language Programming Guide
- Supplied accessories: power cord (plug matches country destination requirements)
- USB adapter cable (p/n 8121-1354) (CA-ASSY USB type A-B plugs 4 - cond 6.0 ft.)

P-Series Wideband Power Sensors

The P-Series wideband power sensors are designed specifically for operation with the P-Series power meters for wide bandwidth power and time measurements. These sensors are the only Agilent power sensors that have their cable permanently wired (hard-wired) into the sensor. This provides better wide bandwidth specifications compared to having a removable cable. Refer to the Sensor Cable Lengths section in this guide for part number and cable length information.

The standard P-Series power sensors include:

- Power sensor 50 MHz to 18 GHz, **order N1921A**
- Power sensor 50 MHz to 40 GHz, **order N1922A**
- English-language Operating and Service Manual (p/n N1920-90007)

Compatibility

Power sensor compatibility

The P-Series power meters are compatible with all current 8480, E-Series and P-Series power sensors. Refer to the Accessories section, P-Series meter cable adaptors N1917A/B and C.

Connector options for P-Series power meters

The following options are available on the P-Series power meters.[2]

Table 1. Connector options for P-Series power meters

Option	Description
N1911A-003	Rear panel sensor and power reference connectors (single channel)
N1912A-003	Rear panel sensor and power reference connectors (dual channel)

Video output option (H01)

The video output provides a DC voltage proportional to the measured input power through a BNC connector on the rear panel. The DC voltage can be displayed on an oscilloscope for time measurement. This option replaces the recorder output on the rear panel. The video output impedance is 50 Ω.

- Video rise time: 13 ns
- Frequency range: 50 MHz to 40 GHz[3]

1. The Installation Guide is in English, French, and Japanese languages (p/n N1912-90009).
2. The P-Series power meters are configured for either front panel connectors (both sensor and power reference) or rear panel connectors. There are no options for parallel front and rear panel sensor inputs.
3. The auto-zero feature needs to be turned off; otherwise this will appear as a glitch in the video output signal.

P-Series Power Meter Accessories

Standard accessories are available, for example, rackmount kits.

Table 2. P-Series power meter accessories

Accessory part number	Description
N1911A-908 N1912A-908	Rackmount kit (one instrument)
N1911A-909 N1912A-909	Rackmount kit (two instruments)
34131A	Basic instrument transit case
34161A	Accessory pouch

Cable Accessories

Power sensor adapters for use with 8480 and E-Series power sensors:

Table 3. Cable accessories for use with 8480 and E-Series power sensors

Accessory part number	Description
N1917A	P-Series meter cable adaptor, 1.5 m (5 ft)
N1917B	P-Series meter cable adaptor, 3 m (10 ft)
N1917C	P-Series meter cable adaptor, 10 m (31 ft)

Software Accessories

N1918A PC analysis software

PC analysis software will be available in May 2007 for complete pulse and statistical analysis. The PC analysis software links with the P-Series power meter via the LAN, USB or GPIB interface in a PC or laptop environment. It provides the comprehensive statistical, power, frequency and time measurements that are required for radar and communications signals.

P-Series Wideband Power Sensor Cable Lengths

Three fixed cable length options are available for the P-Series power sensors at 1.5 m, 3.0 m and 10 m. Option 105 is the standard (default) option.

Table 4. P-Series wideband power sensor cable lengths

Option	Description
N1921A-105 N1922A-105	Fixed 1.5 m (5 ft) cable length
N1921A-106 N1922A-106	Fixed 3 m (10 ft) cable length
N1922A-107 N1921A-107	Fixed 10 m (31 ft) cable length

Calibration Option

The P-Series power meters and sensors are available with **Option 1A7 (ISO17025 compliant calibration)** or **Option A6J (ANSI Z540 compliant calibration)**.

Service and Support Options

The P-Series power meters and sensors are supplied with a 1-year customer return repair service as standard.

Table 5. Service and support options

Option	Description
R1280A	Return-to-Agilent – warranty and service plan
R1282A	Return-to-Agilent – calibration plan

Documentation

The P-Series power meters provide a hardcopy *Installation Guide*, and a *Product Reference CD* which contains the *User's Guide* and *Programming Guide*. The following tables supply the option number as well as the Agilent part number (where appropriate) to order the documentation. The localized options for the P-Series power meters provide a hardcopy of the localized *User's Guide* and an English language hardcopy of the *Programming Guide*.

The P-Series power sensors provide a hardcopy of the *Operating and Service Manual* as standard.

Table 6. Documentation

Option	Documentation
N1911A-ABA N1912A-ABA	English language manual set (hardcopy User's Guide p/n N1912-90002 and Programming Guide p/n N1912-90009)
N1911A-0B0 N1912A-0B0	Delete manual set
N1911A-0BK N1912A-0BK	Additional English language manual set
N1911A-0BW N1912A-0BW	Service Guide (p/n N1912-90015)
N1911A-ABF N1912A-ABF	French localization, User's Guide part number N1912-90003
N1911A-ABJ N1912A-ABJ	Japanese localization, User's Guide part number N1912-90007
N1921A-0B1 N1922A-0B1	Additional English language manual set, Operating and Service Manual, part number N1920-90007

Literature References

P-Series Power Meters and Power Sensors, technical overview, literature number 5989-1049EN

P-Series Power Meters and Power Sensors, data sheet, literature number 5989-2471EN

EPM-P Series Power Meters and E9320 Sensors, data sheet, literature number 5980-1469E

EPM Series Power Meters, E-Series and 8480 Series Power Sensors, data sheet, literature number 5965-6382E

Fundamentals of RF and Microwave Power Measurements (Part 1), application note 1449-1, literature number 5988-9213EN

Fundamentals of RF and Microwave Power Measurements (Part 2), application note 1449-2 literature number 5988-9214EN

Fundamentals of RF and Microwave Power Measurements (Part 3), application note 1449-3, literature number 5988-9215EN

Fundamentals of RF and Microwave Power Measurements (Part 4), application note 1449-4, literature number 5988-9216EN

4 Steps for Making Better Power Measurements, application note 64-4D, literature number 5965-8167EN

Choosing the Right Power Meter and Sensor, product note, literature number 5968-7150E

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Revised: 09/14/06

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Printed in USA, January 31, 2007
5989-1252EN

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